



percentage who underwent radiography out of hours was 46%, then introducing the protocol saved the radiology department almost £500 a year.

The protocol also resulted in an increase in the number of patients reviewed and hence the work of the accident and emergency department. In terms of the patients reviewed in the department, however, the total numbers (an extra 36 over the eight weeks) were small, amounting to an extra four or five patients a week in a department with an average new patient attendance each week of about 800.

Eleven of the patients reviewed in the department were referred to the soft tissue clinic, six of whom required physiotherapy. This suggests that, as had been suspected, before the protocol was introduced patients with ligamentous injuries had been undertreated; this seems to justify the small increase in the number of patients reviewed. After introducing the protocol the number of patients reattending of their own accord fell from five to one, supporting the view that the protocol improved the treatment of patients

with ligamentous injuries. The protocol also resulted in a reduction of the work of the fracture clinics as inappropriate referrals were reduced by 53%. The two patients who were referred by their general practitioners for radiography show the importance of informing local general practitioners of changes in treatment policy.

At the end of the study no changes were required in the protocol, and the algorithm is now included in the notes of any patient attending with an ankle injury. The algorithm proved an effective means of improving treatment of ankle injuries and algorithms may improve treatment of other conditions in accident and emergency departments.

- 1 Brooks SC, Potter BT, Rainey JB. Inversion injuries of the ankle: clinical assessment and radiographic review. *BMJ* 1981;282:607-8.
- 2 Montague AP, McQuillan RF. Clinical assessment of apparently sprained ankle and detection of fracture. *Injury* 1985;16:545-6.
- 3 Anonymous. Late consequences of sprained ankle [Editorial]. *Lancet* 1990;335:1313-4.

(Accepted 1 February 1991)

Audit in Person

Surveys of patient satisfaction: I—Important general considerations

Ray Fitzpatrick

Why conduct a survey?

Discussions about how the quality of health care should be measured increasingly include patient satisfaction as one of the important dimensions.^{1,2} However, a single explanation of why surveys of patients' views have suddenly become such a visible and regular aspect of the NHS would probably not cite the impact of scientific arguments about the evaluation of health services but the far more influential NHS Management Inquiry. The inquiry crisply and emphatically condemned the failure of the NHS to use the well established techniques of market research to elicit the views and experiences of its users.³ The proliferation of surveys that immediately followed that report was largely managerially led and focused on subjects that managers may have felt more competent or confident to tackle, such as the quality of catering and physical amenities provided for inpatients or the accessibility of health care facilities.

Subsequently, important statements from professional bodies argued along similar lines to those of the government's white paper *Working for Patients*⁴ by underlining the wider contribution of patients' views to assessing quality of care in hospitals and primary care.^{5,6} It will be unlikely, if these recommendations are heeded, that surveys will continue to concentrate narrowly on so called "hotel" aspects of health care, such as catering. The patient's views will increasingly be sought on such matters as information needs; interpersonal and organisational aspects of care; and, indeed, the value of medical treatments.

There are three reasons besides external pressures from governments, professional bodies, and health authorities why health professionals should take patient satisfaction seriously as a measurement (box). Firstly, there is convincing evidence that satisfaction is an important outcome measure. It may be a predictor of whether patients follow their recommended treatments,⁷ and is related to whether patients reattend for treatment⁸ and change their provider of health care.⁹ Evidence has also begun to emerge that satisfaction is related to improvements in health status.^{10,11} Secondly,

Patient satisfaction as measure of health care

- An important outcome measure
- Useful in assessing consultations and patterns of communication
- Used systematically, feedback enables choice between alternatives in organising or providing health care

patient satisfaction is an increasingly useful measure in assessing consultations and patterns of communication (such as the success of giving information, of involving the patient in decisions about care, and of reassurance).¹² Thirdly, patient feedback can be used systematically to choose between alternative methods of organising or providing health care (such as length of consultation or arrangements for out of hours care).¹³

Health professionals remain largely unfamiliar with methods of measurement derived from survey research. This paper considers some of the potential problems and strategic questions involved in surveys of patient satisfaction. A subsequent article will examine some of the main considerations involved in designing, conducting, and analysing a survey of patients' views.

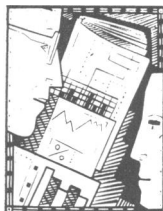
Why not to conduct a survey

The time, resources, and staff required to design, conduct, and analyse a survey are invariably underestimated. Given that various costs are associated with even the most modest survey, alternative methods of obtaining the desired information or goal should always be seriously considered. For example, in general terms we already know much about many of the matters most commonly associated with patient dissatisfaction.¹⁴ With regard to hospital care, well established complaints would include waiting for an outpatient appointment or admission, waiting at clinics, and inadequate or poor information at all stages

Department of Public Health and Primary Care, University of Oxford, Radcliffe Infirmary, Oxford OX2 6HE

Ray Fitzpatrick, PHD, university lecturer in medical sociology

BMJ 1991;302:887-9



Negative assumptions about surveys of patient satisfaction

- Uncover widespread and general dissatisfaction
- Answers are ill considered or whimsical
- Misjudgments arising from patients' reliance on perceptions based on surrogate indicators (halo effect)

and about most matters of concern to the patient. In primary care patients' criticisms may focus on problems of access such as appointment systems and out of hours care, problems of rapport with the doctor and, again, limitations in communication between health professional and patient. Thus it may be sufficient to review the growing number of publications. Furthermore, if the object of the survey is to sensitise staff to the patient's point of view there are numerous alternative possibilities—from establishing patient participation groups through tape recording and playing back to staff individual patients' accounts of their experiences—that may be better than a survey. A survey should be used to answer a question, and the more precisely that question is formulated, the more successful the survey is likely to prove. The question need not be in the form of a hypothesis. Surveys are frequently descriptive in intent, to ascertain which aspects of care are related to the highest and lowest levels of satisfaction in a given patient group. However, measures of people's perceptions and views are increasingly shown to have measurement properties as robust in terms of reliability and reproducibility as physiological and other conventional medical measures.¹⁵ It is then appropriate to ask more specific questions by means of measures of satisfaction, particularly in evaluating health care.

Some prejudices about patient surveys

It is worth while confronting several negative assumptions that may exist about the value of surveys of patient satisfaction (box). One unspoken anxiety may be that they will uncover widespread and general dissatisfaction, which will prove undermining to all concerned. However, health professionals seem to estimate greater levels of dissatisfaction in their patients than surveys disclose.¹⁶ Virtually all surveys indicate only a few patients who express negative views about any particular issue. Indeed, one of the greatest single problems in this type of work is the lack of variability in results; typically, at least 80% of respondents express satisfaction for any given question. One reason is the reluctance of many patients in the NHS to express critical comments about their health care.¹⁷

A more commonly expressed reservation is that answers given to surveys of satisfaction will reflect essentially ill considered, whimsical, or unstable thoughts and feelings, especially given the emotional and fluctuating nature of many episodes of illness. A variant of this concern is the argument that because of the technical complexity of so many aspects of health care patients are not competent to make sensible judgments about much of the care that they receive. In particular, patients might be thought to depend for their judgments on factors that from a health professional's viewpoint are potentially misleading. Some research evidence can be cited to fuel such anxieties. One study suggested that patients' views about the technical skills and medical competence of their personal doctors as expressed in a survey were largely determined by their perceptions of quite different qualities of the doctor—the extent of friendly and reassuring interpersonal manners.¹⁸ Psychologists have long recognised the importance of such “halo effects” in attitudinal surveys, whereby single striking impres-

sions of another person colour and shape all other judgments made about them.

However, the more specific and well designed the questionnaire, the clearer it is that patients do not respond in terms of global reactions, and they may form quite distinct views about different aspects of a single episode of a health care consultation. Moreover, as with other fields of survey research and measurement of attitude, reservations such as those expressed above have to be taken account of by examining the reliability and validity of questionnaires.

Reliability is concerned with the extent to which a questionnaire produces the same results on separate occasions of use. Clearly, examining such features is not easy, given that there may be low agreement between two administrations of a questionnaire, which may be due to real changes in patients' views. Remarkably few studies have examined what is formally known as the “test-retest” reliability of questionnaires of patient satisfaction, but the results have been encouraging.¹⁹ An alternative approach is by examining “internal reliability.” One common form of this is “split half” reliability, which examines the extent of agreement between the halves of a questionnaire or section of a questionnaire considered to be measuring a particular dimension of satisfaction. Again, results of such examinations are satisfactory.²⁰

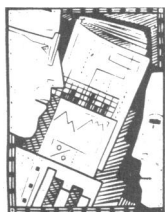
Validity is much more difficult to examine and, compared with reliability, is beyond the means of most simple surveys to evaluate in any real sense. This is because validity of a questionnaire is the requirement for it to measure what it claims to measure, and it is difficult to imagine any ultimate gold standard against which to assess a questionnaire of satisfaction. However, some elaborate studies showed that such questionnaires can relate to other measures in theoretically expected ways (so called “construct validity”). Patients' views about consultations as expressed in questionnaires correlate with independent measures of doctors' interpersonal skills,²¹ communication styles,²² and technical proficiency.²³

Strategic considerations

Some strategic issues of choice confront investigators about to conduct a survey. Firstly, it is clear that far from having one global reaction to their health care that may be captured in an overall question about their satisfaction, patients have distinct and differentiated views that may, in principle, be captured by a questionnaire. One of the most elaborate investigations was able to show that patients held distinct views on at least four broad dimensions of their health care: the doctor's conduct, availability of care, continuity and convenience, and financial accessibility.²⁴ However, a full list of dimensions in terms of which patients' views have been examined would be much larger (box). The investigator therefore needs to consider which aspects are relevant to the research question. Studies have been much more likely to include dimensions such as humaneness and information-giving whereas, surprisingly, patients' views on outcomes have been neglected.²⁵

Different dimensions of patient satisfaction

- | | |
|-------------------|--------------------------------------|
| • Humaneness | • Cost |
| • Informativeness | • Facilities |
| • Overall quality | • Outcome |
| • Competence | • Continuity |
| • Bureaucracy | • Attention to psychosocial problems |
| • Access | |



A second broad consideration is whether to gather information by means of a self completed questionnaire or by interview, and this is likely to be particularly influenced by resources. The balance sheet of advantages between the two methods (box) gives some indication of the different considerations relevant to a decision. It is often argued that an interview will always "outperform" a questionnaire in obtaining sensitive information accurately. However, there is no reason to believe that a carefully developed and well piloted self completed questionnaire should be quite such a second best choice as the list suggests.

A final aspect that is rarely considered at the time of embarking on a study is how the results are to be disseminated and ultimately acted on. Yet one of the key lessons from the managerial phase of activity in the research on patient satisfaction in the NHS must surely be the problems that arise from lack of attention given to this issue.²⁶ Conducting a survey requires motivation and involvement by many staff, as well as the vital contributions of patients. Yet all too commonly reports of surveys are filed away without apparently having had any purpose or consequences, resulting in widespread disillusionment with the exercise. As much care is therefore needed in deciding how surveys are to be integrated into the continuous process of providing and improving care as in considering the scientific issues of survey design.

Advantages of self completed versus interview questionnaires

Interview	Self completed
Sensitivity to patients' concerns	Standardisation of items
Flexibility in covering topics	No "interviewer bias"
Rapport	Anonymity
Clarification of ambiguities of items or of reasons for views	Low cost of data gathering
Respondent adherence	Less need for trained staff
More scope to follow up non-respondents	

- Maxwell R. Quality assessment in health. *BMJ* 1984;288:1470-2.
- Hopkins A, Costain D, eds. *Measuring the outcomes of medical care*. London: Royal College of Physicians and King's Fund Centre, 1990.
- Department of Health and Social Security. *NHS management inquiry. Report*. London: DHSS, 1983.
- Secretaries of State for Health, Wales, Northern Ireland, and Scotland. *Working for patients*. London: HMSO, 1989. (Cm 555.)
- Royal College of General Practitioners. *Quality in general practice*. London: RCGP, 1985. (Policy statement No 2.)
- Hopkins A. *Measuring the quality of medical care*. London: Royal College of Physicians, 1990.
- Kinney J, Bradshaw P, Ley P. Patients' satisfaction and reported acceptance of advice in general practice. *J R Coll Gen Pract* 1975;25:558-66.
- Roghamm K, Hengst A, Zastowny T. Satisfaction with medical care: its measurement and relation to utilisation. *Med Care* 1979;17:461-77.
- Weiss B, Senf J. Patient satisfaction survey instrument for use in health maintenance organisations. *Med Care* 1990;28:434-45.
- Fitzpatrick R, Hopkin A, Harvard-Watts O. Social dimensions of healing: a longitudinal study of outcomes of medical management of headaches. *Soc Sci Med* 1983;17:501-10.
- Fitzpatrick R, Bury M, Frank A, Donnelly T. Problems in the assessment of outcome in a back pain clinic. *International Rehabilitation Studies* 1987; 9:161-5.
- Savage R, Armstrong D. Effect of a general practitioner's consulting style on patients' satisfaction: a controlled study. *BMJ* 1990;301:968-70.
- Bollam M, McCarthy M, Modell M. Patients' assessments of out of hours care in general practice. *BMJ* 1988;296:829-32.
- Fitzpatrick R. Satisfaction with health care. In: Fitzpatrick R, Hinton J, Newman S, Scambler G, Thompson J, eds. *The experience of illness*. London: Tavistock, 1984:154-78.
- Feinstein A. Clinical biostatistics. XLI. Hard science, soft data, and the challenges of choosing clinical variables in research. *Clin Pharmacol Ther* 1977;22:485-98.
- Rashid A, Forman W, Jagger C, Mann R. Consultations in general practice: a comparison of patients' and doctors' satisfaction. *BMJ* 1990;299:1015-6.
- Fitzpatrick R, Hopkins A. Problems in the conceptual framework of patient satisfaction research. *Sociology of Health and Illness* 1983;5:297-311.
- Sira ZB. Affective and instrumental components in the physician-patient relationship. *J Health Soc Behav* 1980;21:170-80.
- Korsch B, Gozzi E, Francis V. Gaps in doctor-patient communications. 1. Doctor-patient interaction and patient satisfaction. *Pediatrics* 1968;42:855-71.
- Baker R. Development of a questionnaire to assess patients' satisfaction with consultations in general practice. *British Journal of General Practice* 1990;40:487-90.
- DiMatteo R, Taranta A, Fiedman H, Prince L. Predicting patient satisfaction from physicians' nonverbal communication skills. *Med Care* 1980;18:376-87.
- Stiles W, Putnam S, Wolf M, James S. Interaction exchange structure and patient satisfaction with medical interviews. *Med Care* 1979;17:667-81.
- Roter D, Hall J, Katz N. Relations between physicians' behaviors and analogue patients' satisfaction, recall and impressions. *Med Care* 1987;25: 437-51.
- Ware J, Snyder M. Dimensions of patient attitudes regarding doctors and medical care services. *Med Care* 1975;13:669-79.
- Hall J, Dorman M. What patients like about their medical care and how often they are asked: a meta-analysis of the satisfaction literature. *Soc Sci Med* 1988;27:935-40.
- Dixon P, Carr-Hill R. *The NHS and its customers. III. Customer feedback surveys—a review of current practice*. York: Centre for Health Economics, University of York, 1989.

News and Information

In a retrospective study of 39 patients with severe trauma admitted to the North Middlesex Hospital the injury severity score and the revised trauma score failed to predict outcome in 11 patients (*British Journal of Surgery* 1991;78:230-3). Seven patients who died would have been expected to survive and four survivors scored a greater than 50% chance of dying. These scores are commonly used as the gold standard for assessing trauma severity; it looks as though scoring needs to be refined.

Another study from the Royal Victoria Infirmary in Belfast showed that the revised trauma score had a failure rate of 5.7% in 53 patients with severe trauma (*Injury* 1991;22:35-7). This was largely owing to the short period between injury and arrival in hospital and to blunt trauma. The score, which measures level of consciousness, systolic blood pressure, and respiratory rate, is nevertheless a useful practical guide for junior staff, provided that it is frequently recalculated.

An agreed policy in Riverside East for the use of thrombolytic drugs in patients with myocardial infarction, in which streptokinase was recommended as the first line of treatment, coincided with the introduction of more expensive drugs. Over the subsequent 15 months 36 of 43 patients were given streptokinase and seven alteplase (*Postgraduate Medical Journal* 1991;67:165-9). Savings were calculated at over £27 000, but no information was given about the benefit to patients.

An analysis of over 21 000 consultations by 85 general practitioners in Lothian showed that psychosocial and longer term problems and health promotion were likely to be discussed when consultation times were 10 minutes or more and that patients expressed greater satisfaction (*British Journal of General Practice* 1991;41:48-54). It was suggested that the ratio of long to short consultations for individual general practitioners might be used as a basis for assessing quality of care.

Another audit of the management of gastrointestinal haemorrhage (*Journal of the Royal College of Physicians of London* 1991;25:33-5) confirms the value of an agreed management policy and appropriate criteria for surgery (*BMJ* 1990;301:165). The mortality was 4.6% in 109 patients, 68% of whom were aged over 60, admitted to a district general hospital in Bridgend. An important finding was that despite the value of emergency endoscopy an additional eight patients would have been needlessly operated on if the appearances had been used as an indication for surgery.

The Dutch are training "standardised patients" to visit general practitioners in order to assess the quality of care (*British Journal of General Practice* 1991;41:94-6). Doctors were informed several months in advance that they might be visited, and four "patients" with diabetes, headache, diarrhoea, and shoulder pain were sent to 39 doctors willing to take part. Only 33.68% of essential actions previously agreed by a panel were carried out, though with a single visit this was